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ABSTRACT

This paper outlines the application of Total Quality Management to schools and describes schools that are representative of the national trend toward Schools of Quality or Quality Schools. The traditional preparation program for teachers and administrators is described as being driven by certification requirements of the state departments of education and by in-house college requirements. To prepare teachers to teach in Quality Schools, the following components are recommended: (1) the preparation program should be grounded in the liberal arts; (2) artificial barriers set up by having separate and different preparation programs for elementary, secondary, and special education teachers should be eliminated; (3) teams of secondary preparation students and elementary/special education students should work together in their education courses; (4) the program should emphasize assessment in a diagnostic-prescriptive style, the methodologies of teaching, and the use of technology; (5) methods courses should emphasize working as a member of a team to make effective decisions in the best interests of students; (6) methods courses should be conducted by having methods teachers demonstrate teaching techniques with public school students; (7) the program should emphasize the knowledge of and use of technology; and (8) the program should include community service for prospective teachers. (Contains 15 reference notes.) (JDD)

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ED 361 297

A Preparation Program for Quality Teachers

by

Edward A. Sullivan

If one is to write about a preparation program for quality teachers, it is imperative that both the writer and the reader have a common understanding of the meaning of the term "quality". As used in this paper, the word "quality" refers to inherent or intrinsic excellence of character or type or as a second meaning a superiority in kind.[1]

In this paper, the term "quality teachers" refers to teachers who display the excellence and/or the superiority mentioned in the definition above. It refers particularly to teachers in Schools of Quality.

A School of Quality is one in which W. Edwards Deming's philosophy of management is practiced. In his management system, Deming emphasized that teamwork was of prime importance and that the team consisted of both management and labor participating together on equal footing. In the schools this teamwork would involve administration, faculty, students, parents, business people and members of the community participating together as equals to provide what is best for students and the community. Deming also emphasized the need for on-going training for all employees. This training would, in a school setting, include both administration and faculty and, in some cases, students, parents and business and community resource people attending in-service training sessions to keep abreast of what was happening in the system.

Another point emphasized by Deming is the need for continuous research and employee-gathered data to determine what decisions to make to improve the enterprise. In the school setting, this translates to a program where teachers and administrators examine problems, propose solutions, act on their proposals and re-evaluate. The cycle is continuous. As part of this cycle teachers would test diagnostically and prescriptively. Diagnostic testing would be used to determine what should be taught and how it should be taught. This concept of diagnostic prescriptive testing, also relates to Deming's concept of building quality into the process rather than correcting defects at the end of the process. It has always been important to Deming to improve the process rather than to blame people for problems.[2]

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Industry has accepted the concept of Total Quality Management more readily than school systems, with some exceptions. Toyota has accepted and implemented the concept for many years and one can easily see the results in the Toyota automobiles produced with an exceptionally high quality. General Motors in deciding to make the Saturn automobile revised its assembly line process and its labor management structure to allow for Total Quality Management. After receiving hours of training as part of an internship program, employees at the Saturn plant spend at least 92 hours a year in training and are paid for this training.[3] The Saturn has become one of the top sellers for General Motors.

John Lucas took over as coach of the NBA San Antonio Spurs after they experienced a disastrous start to their season. Since taking over and implementing a policy where players as well as coaches have a say in the game plan and in who will play the team has moved from last place to second place in its division. If one watches the Spurs play, the players often make the decisions with some input from the coach. Another example of Total Quality Management!

St. Paul's Medical Center in Dallas is one of many hospitals which is initiating or has already initiated the concept of Total Quality Management. This provides us with an interesting scenario of health care providers at all levels working together with health care recipients to provide the best health care possible.

When one applies the concept of Total Quality Management (TQM) to schools several problems become obvious. One problem area is the perception on the part of some administrators and teachers that in a given class there is a certain percent of students who should receive a grade of "C", "D" or "F". If one accepts the idea of the Continuous Improvement Process (CIP) as practiced at Mt. Edgecumbe High School in Sitka, Alaska this should not be a problem. (Unfortunately, not everyone accepts both diagnostic prescriptive testing and CIP!)

Another problem area is the need to provide training time for teachers and administrators and students to accustom themselves to the new system. Unfortunately, in education as in business, too much change is initiated from the top down and meets resistance from the very staff which is supposed to implement the change. This is not the most promising way to initiate change.

A third problem area is the reluctance of some administrators to share decision making with other members of the school community. Most school principals, by virtue of training, are from the authoritarian school of school administration. The school can only function when they decide every issue involving the total school by themselves. At least, that's the way they

try to operate. Fortunately times are changing and we are seeing more efforts to introduce school-based management.

In spite of these and other difficulties there are good things happening and the number of Quality Schools is increasing.

At the previously mentioned Mt. Edgecumbe High School in Sitka, Alaska there has been a Quality School program for more than four years.

The Crawford Central School District in Meadville, Pennsylvania has Total Quality Transformation as its approach to the Quality School. In this process a team prepared in TQM methodology determines what problems to address, develops a design, collects data and analyzes the data and then makes recommendations to initiate necessary change.[4]

Central Park East Secondary School in East Harlem is another example of a Quality School. This school, following Deming's ideas, has established a sense of purpose or a goal. The goal at this school is to help students "cultivate the habits of mind" that will enable them to succeed. Emphasis at Central Park East Secondary School is on teamwork and collaboration.[5]

The Johnson City Schools in New York State are another example of Quality Schools. The district no longer focuses on standardized test scores but now focuses on developing performance-based assessment. A comprehensive school improvement plan has resulted in an Outcomes-Driven-Developmental Model emphasizing non-coercive leadership with attention to research data on students, schools and the district.[6]

The Northview Elementary School in Manhattan, Kansas is another example of a Quality School. The principal at this school has developed a positive environment and empowered his teachers to analyze achievement data to determine problem areas and to promote learning. The analysis of achievement data showed a lack of consistency in the mathematics curriculum. This problem was addressed by school teams and has been resolved.[7]

These are four examples of schools/systems which have initiated the concept of Quality. They are representative of the national trend to Quality Schools and to Total Quality Management (TQM). All of this serves as a prelude to discussing a preparation program for teachers who will be working in the Quality School.

The traditional preparation program for teachers and administrators is exemplified in the following programs. These programs are driven by certification requirements of the state departments of education and by in-house college requirements.

On the following pages are three figures which represent the preparation programs for teachers and administrators at Providence, College, Providence, Rhode Island. As can be seen

from figures 1 and 2 there is emphasis on a strong liberal arts education with emphasis on subject matter preparation.

Figure 1[8]
Preparation Program Elementary/Special Education
Providence College

Freshman

DWC	101	Development of Western Civilization
PSY	100	Intro to Psych
EDU	121	Intro and Characteristics of Individuals with Exceptionalities
ENG		English Proficiency
		Elective
DWC	102	Development of Western Civilization
MTH		Math Elective
ART		Elective

Sophomore

DWC	201	Development of Western Civilization
NSC	201	Natural Science Elective
EDU	225	Communication Disorders of Children
		Elective
DWC	202	Development of Western Civilization
EDU	270	Teaching Science & Mathematics in the Elementary School
NSC	202	Natural Science Elective
		Elective

Junior

PSY	212	Child Psychology
EDU	370	Methods & Materials for Teaching Reading
EDU	332	Arts, Music, Health and Physical Education in the Elementary School
THL or PHL		Theology Elective or Philosophy Elective
		Elective
EDU	331	Teaching Language Arts & Social Studies in the Elementary School
EDU	380	Classroom Management
THL or PHL		Theology Elective or Philosophy Elective
EDU	320	Resource Teacher
	or	
EDU	322	Home School Relations
		Elective

Senior

EDU	390	Assessment of Children's Individual Differences
EDU	418	Assessment & Curriculum Methodologies of Individuals with Mild/Moderate Disabilities at the Elementary Level
THL or PHL		Theology Elective or Philosophy Elective Elective
EDU	425	Student Teaching Elementary Education
EDU	426	Student Teaching Special Education
EDU	301	Foundations of Education

Figure 2[9]

Preparation Program Secondary Education
Exemplified by Mathematics Preparation Program
Providence College

B.A. Degree in Mathematics
Education Program

Freshman

DWC	101	Development of Western Civilization
MTH	131	Calculus and Analytical Geometry I
EDU	201	Educational Psychology
		Social Science Elective
DWC	102	Development of Western Civilization
MTH	132	Calculus and Analytical Geometry II
EDU	203	Exceptional Child in Regular Classroom
		Social Science Elective

Sophomore

DWC	201	Development of Western Civilization
MTH	223	Calculus and Analytical Geometry III
NSC	201	Natural Science Elective
PHL		Philosophy Elective
DWC	202	Development of Western Civilization
MTH	215	Linear Algebra
NSC	202	Natural Science Elective
THL		Theology Elective

Junior

MTH	323	Advanced Calculus
MTH	315	Modern Algebra
EDU	301	Foundations of Education
CSC	103	Computer Science
		Fine Arts Elective
MTH	323	Advanced Calculus
MTH	309	Modern Geometry
EDU	406	Principles of Secondary Education
THL		Theology Elective
PHL		Philosophy (Ethics)

Senior

MTH	423	Mathematical Statistics
EDU	401	Educational Measurement
EDU	416	Methods of Teaching Mathematics
MTH		Mathematics Elective
		Elective
EDU	422	Student Teaching
		Elective
		Elective

Figure 3[10]

Preparation Program Secondary/Elementary School Administration

Providence College

The following courses are required in the master's program in secondary administration:

501 Fundamentals of Research
503 Organization and Administration of Secondary Schools
504 Supervision-Personnel Problems in Education
505 School Law
506 Curriculum Secondary School
508 Program Evaluation
512 School Community Relations
516 School Finance
536/537 Internship in Secondary Administration

Six hours of electives must also be chosen.

The following courses are required in the master's program in elementary administration:

501 Fundamentals of Research
504 Supervision-Personnel Problems in Education
505 School Law
508 Program Evaluation
512 School Community Relations
516 School Finance
520 Organization and Administration of Elementary School
521 Curriculum in Elementary School
530/531 Internship in Elementary Administration

Six hours of electives must also be chosen.

The preparation programs shown in figures 1-3 are fairly typical of preparation programs in these areas. Figures 1 and 2 are representative of the liberal arts requirements at Providence College with the addition of specialized requirements depending on the area and level of teaching for which one is preparing. These preparation programs have been operational for a number of years with changes occurring as certification requirements change or as needed as determined by students and faculty.

The preparation program shown in figure 3 is representative of the preparation program for school administration at many graduate schools. The program is good in those areas necessary for one to be a strong administrator. (Not necessarily a democratic administrator, and this is where the problem lies, if we wish to have Quality schools.) Figure 3 serves only as a point of reference to show that both teacher preparation and administration, programs are traditional.

These programs illustrate the present status of preparation programs. It is time now to look at what a preparation program should include to prepare one to teach not only in a Quality School but in any type of school.

The first premise of this new program is that the preparation program should be grounded in the liberal arts. If one has not had the opportunity to read and discuss the works of philosophers, writers and historians who have contributed so much to our civilization he lacks the ability to understand what is happening in our world today. This understanding is especially appropriate if one is to function as a team member in a Quality School.

Educators are generally willing to accept the liberal arts as the foundation of a teacher preparation program. The next premise will not be accepted as readily. This premise is that we should eliminate the artificial barriers set up by having separate and very different preparation programs for elementary, secondary and special education teachers. The author does realize that the secondary teacher needs a pre-determined number of hours in his teaching area but feels that there can be an educational component which could be covered in common with elementary and special education students. If this were to occur, the elementary and special education preparation program could be changed to give those students a better background in mathematics, history and English to assist them when they teach mathematics, history/Social Studies and language arts. The secondary education student would gain new insights in a student-centered milieu from his elementary/special education counterparts. All students would gain from this type of program.

Another aspect of this common preparation program would include the formation of six member teams in freshman year. (The number "six" is an arbitrary choice and could be adjusted up or down depending on the size of the program.) These teams would

consist of three secondary preparation students and three elementary/special education students. The students would work together as teams in their education courses and they may even extend this cooperativeness to their other courses.

This common preparation program would emphasize assessment in a diagnostic-prescriptive style, methodologies of teaching and the use of technology.

If we are to use testing in an appropriate fashion it should be for diagnosis and prescription. There does not seem to be any sense in teaching a topic, giving a test on that topic and then, regardless of how many students passed or failed the test, moving on to the next topic. If we truly wish to teach all children we need to study the process, as Deming taught, and find out where each student is and provide him/her with the means to proceed successfully to the next point. This is what diagnostic-prescriptive testing and teaching is about.

It is important for prospective teachers to be taught in a diagnostic-prescriptive fashion at least by those who are preparing them to be teachers if not by their liberal arts teachers. (Notice the use of the word "teachers" instead of "professors"!) It is also important for prospective teachers to receive experience in their classrooms and in the school setting in administering, interpreting and providing appropriate educational programs. After a period of on-campus work in diagnostic-prescriptive testing the prospective teacher should be testing and prescribing in the actual classroom setting.

Methods courses are usually taught on the college campus either before a group of one's peers or at a laboratory school on campus. If one is to have credibility in front of his students he should be willing to "take his show on the road" and demonstrate teaching methods before actual classes in the public schools. If we expect students to develop expertise in the classroom we should be able to demonstrate it to them in classroom situations at the elementary and secondary levels and to a variety of students ranging from special needs to gifted and from behavior problems to well-behaved.

Emphasis in the methods courses should also be on how to work as a member of a team to make effective decisions in the best interests of students. This team may consist of other teachers who have the same student(s) in class, an administrator, students and parents or guardians. The methods courses in this paradigm would provide prospective teachers an opportunity to learn about teaching methods, to work as a productive team member and to use diagnostic-prescriptive testing and teaching at all levels.

It is easy to take issue with the idea of a common preparation program for elementary and secondary teachers. Certification requirements being what they are there may be problems in implementing this common preparation program for all

teachers. However, certification boards have been willing to explore new and alternative routes to certification so this approach should certainly be worth a try. If we provide all teachers, elementary, secondary and special education, with a common preparation process this should provide them with an awareness of the problems common to all areas as well as a knowledge of the problems unique to each area.

In Japan every Japanese student studies haiku, an expression of a deep feeling or thought in seventeen Japanese letters. Haiku helps train Japanese students to read between the lines by paying attention to what is implied or suggested. One impact of the study of haiku is that Japanese scientific papers and legal documents are short and to the point."[11] It just may happen that a common preparation program would help to develop unique solutions to some of the problems besetting education today.

This new preparation program for prospective teachers should emphasize the knowledge of and use of technology. Because of limitations of space this author will restrict himself to four different areas of technology. These include computer programs, CD-ROM, video discs and virtual reality.

We are all familiar with computer programs to some degree. Unfortunately, the author, as he visits schools to observe student teachers, does not see computers in too many individual classrooms. There is always a computer lab in the schools visited but very few teachers have a computer in their room. If we really want to emphasize diagnostic prescriptive testing and teaching, it is important that each classroom be equipped at least with a computer. This would provide us with an opportunity to develop an individual education plan for each and every one of our students, each day.

With this as background, it becomes easy to see that every teacher preparation program needs to familiarize its students with the management aspects of computer programs, with the potential of CD-ROM and videodiscs[12] and the worlds to be created by students through virtual reality.[13]

Another aspect of a preparation program for teachers for Quality Schools would include community service in a manner similar to that described by the author in a program he developed in Michigan in 1968-69.[14] In that program urban and suburban high school students - potential dropouts and accelerated students - worked with the social agencies in the Lansing, Michigan area to provide services to the community. This was done as a part of their high school educational program.

A final aspect of the preparation program for Quality School teachers involves practicum experiences at all levels for each prospective teacher and prospective teaching team. Secondary teachers-to-be would experience teaching in an elementary classroom and with special education students. Elementary and special education teachers-to-be would spend practicum time

teaching high school students as well as elementary and special education students.

At this point one needs to ask whether we are really ready to work to reach total quality. Stephen Yearout, national director of quality management for Ernst and Young's management consulting group, will often pose to companies the question "Who gets ahead: firefighters or firepreventors?" If we want to encourage in people a creative, forward-focused behavior we want firepreventors.[15] If we wish to prevent problems before they happen we need to consider new preparation programs which prepare us for Quality Schools.

If we are ready to reach for Quality Schools then our teacher preparation programs must be indicative of this approach. In summation, this type of program should include the following:

1.) The foundation of a teacher preparation program should be grounded in the liberal arts.

2.) There should be a common preparation program for all teachers. We do not need a separate preparation program for elementary teachers, another for special education teachers and a third for secondary teachers.

3.) Education students should work together in teams of six (The number is arbitrary and may be changed up or down based on the number of students in a program.). Teams would include equal numbers of elementary, special education and secondary education students.

4.) Emphasis in the common preparation program would be on assessment as a diagnostic-prescriptive testing/teaching technique. Education department staff should exemplify diagnostic-prescriptive testing/teaching in their own classes.

5.) Methods courses should be demonstrated to education students by having methods teachers demonstrate teaching techniques in front of public school students in a public school setting. The teacher should possess the expertise he wishes to see in his students.

6.) Teams consisting of students, faculty members and public school teachers should work together to evaluate and redesign the program based on changing needs.

7.) Students should be given as many opportunities as possible to participate in team decisions and should be

given experience in involving their own practicum students in decision making.

8.) Prospective teachers need to be familiar with educational technology as represented by computer programs, CD-ROM, videodiscs and virtual reality.

9.) Community service should be a component of any preparation program for teachers for Quality Schools.

10.) Each student in a common preparation program for teachers for Quality Schools should have pre-practicum and practicum experience working with secondary school, elementary school and special education students.

11.) These pre-practicum and practicum experiences would allow the prospective teacher: a.) to work as a team member with other teachers, administrators, students, parents and community members; and b.) to learn to work with teams of teachers to integrate language arts (English), social studies (history), mathematics, science, music and art.

12.) A mentoring program should be set up to provide support and help for first year teachers to become successful.

1 Noah Webster, Third New International Dictionary, p. 1858.

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6 Ibid

7 Ibid

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